

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,049	10/07/2003	Howard Greenblatt	103488-0011	8291
21125	7590	08/26/2004	EXAMINER	
NUTTER MCCLENNEN & FISH LLP WORLD TRADE CENTER WEST 155 SEAPORT BOULEVARD BOSTON, MA 02210-2604			EHICHIOYA, FRED I	
			ART UNIT	PAPER NUMBER
			2172	

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/680,049

Applicant(s)

GREENBLATT ET AL.

Examiner

Fred I. Ehichioya

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 - 42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1 - 20, 42 and 21 - 41 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/07/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I. Claims 1 – 20 and 42, drawn to identifying related data in a directed graph, classified in class 707, subclass 101.

Group II. Claims 21 – 41, drawn to identifying related triples in a resource description framework (RDF) dataset, classified in class 707, subclass 102.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions listed as Group I and Group II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Group I has separate utility such as privileged access and exchanging access rights to database. The subcombination has separate utility such as Group II has separate utility such as diagnostic testing and knowledge base feedback. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During telephone conversation with Powsner David, Attorney for the Applicants, Registration Number 31868 on August 23, 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1 – 20 and 42. Applicant in reply to this Office action must make affirmation of this election. Claims 21 - 41 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 11, 15 and 42 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1 A, (ii) and (iii), 11 A (ii), 15 A (ii) and 42 A (i) and (ii), recite claims that were not previously claimed. This creates ambiguity to understanding the scope and purpose of the claimed invention, and therefore, there is evidence of failure to comply with the enablement requirement

4: The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 A (ii) recites the limitation "data identified in any of sub-steps (i), (ii) and (iii), and that is not in substantial conflict with the criteria". There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 2 - 10, these claims depend from claim 1 and therefore inherit its deficiencies.

Claim 11 A (ii) recites the limitation "data identified as related in any of sub-steps (i) and (ii), and that is not in substantial conflict with the criteria". There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 12 - 14, these claims depend from claim 11 and

Art Unit: 2172

therefore inherit its deficiencies.

Claim 15 A (ii) recites the limitation "data (hereinafter "identified ancestor") identified in any of sub-steps (i) and (ii), and which identified descendent". There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 16 - 20, these claims depend from claim 15 and therefore inherit its deficiencies.

Claim 42 A (i) recites the limitation "data identified in any of sub-steps (i), (ii) and (iii), and that is not in substantial conflict with the criteria" and claim 42 A (ii) recites the limitation "data (hereinafter "identified ancestor") identified in any of sub-steps (i) and (ii), and which identified descendent". There is insufficient antecedent basis for these limitations in the claim.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 7, 9, 11, 13, 15, 17, 19 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,415,283 issued to James Conklin (hereafter

Art Unit: 2172

"Conklin") in view of USPN 6,405,211 issued to Dan Z. Sokol et al (hereinafter "Sokol").

Regarding claims 11, 15 and 42, Conklin teaches a method for identifying related data in a directed graph, comprising (see column 9, lines 34 – 43):

A. executing the sub-steps of

(i) identifying as related data substantially matching a criteria (see column 15, line 65 – column 16, line 4);

(ii) identifying as related data that is a direct ancestor of data identified in any of sub-steps (i), (ii) and (iii), and that is not in substantial conflict with the criteria;

(iii) identifying as related data (hereinafter "identified descendent") that is a direct descendent of data (hereinafter "identified ancestor") identified as related in any of sub-steps (i), (ii) and (iii), and which identified descendent (see column 3, lines 57 – 63)

Conklin does not explicitly teach

(a) does not have a named relationship with the identified ancestor substantially matching a relationship named in the criteria, if any, and

(b) is not in substantial conflict with the criteria;

(c) does not have a named relationship with the identified ancestor matching a relationship the identified ancestor has with a data, if any, as a result of which the identified ancestor was identified during execution of sub-step (ii),

B. generating an indication of data identified as related in step (A).

Sokol teaches



(a) does not have a named relationship with the identified ancestor substantially matching a relationship named in the criteria, if any (see column 25, lines 20 – 29), and

(b) is not in substantial conflict with the criteria (see column 19, lines 53 – 65);

(c) does not have a named relationship with the identified ancestor matching a relationship the identified ancestor has with a data, if any, as a result of which the identified ancestor was identified during execution of sub-step (ii) (see column 25, lines 30 – 45),

B. generating an indication of data identified as related in step (A) (see column 25, lines 46 – 48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Sokol with the teaching of Conklin wherein ancestor and descendent are used in search and retrieval processes. The motivation is ancestor and descendent create efficient way retrieving objects in a hierarchical system.

Regarding claims 7, 13 and 17, Conklin teaches the directed graph comprises a data flow (see column 9, lines 34 – 43).

Regarding claims 9 and 19, Conklin teaches  
executing step (A) with respect to a first data set representing a first portion of the directed graph (see column 9, lines 34 – 49), and

executing step (A) separately with respect to a second data set representing a second portion of the directed graph (see column 9, lines 34 – 49).

7. Claims 2, 3, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conklin in view of Sokol and further in view of USPN 6,085,188 issued to David W. Bachmann et al (hereinafter "Bachmann").

Regarding claims 2 and 12, Conklin or Sokol does not explicitly teach the criteria specifies a named relationship and a characteristic of that named relationship, and wherein

sub-step (ii) includes comparing at least one of the relationship and the characteristic named in a criteria with any of attributes of the direct ancestor, and a relationship between the direct ancestor and any data that descends therefrom, in order to determine whether the director ancestor is in substantial conflict with the criteria.

Bachmann teaches specifies a named relationship and a characteristic of that named relationship (see column5, lines 22 - 280, and wherein

sub-step (ii) includes comparing at least one of the relationship and the characteristic named in a criteria with any of (see column 2, lines 36 – 46) attributes of the direct ancestor (see column 2, lines 47 – 49), and a relationship between the direct ancestor and any data that descends therefrom (see c0lumn 2, lines 47 – 58), in order to determine whether the director ancestor is in substantial conflict with the criteria (see column 5, lines 39 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Bachmann with the teaching of Conklin and Sokol wherein ancestor and descendent create parent-child table relationship in the hierarchy. The motivation is ancestor and descendent tables filter entries returned from a search to ensure that only entries within a given scope are retained.

Regarding claims 3 and 16, Bachmann teaches the criteria specifies a named relationship and a characteristic of that named relationship (see column 2, lines 45 – 46), and wherein

sub-step (iii) includes comparing at least one of the relationship and the characteristic named in a criteria with any of (see column 1, lines 36 – 46)

attributes of the identified descendent (see column 1, lines 48 – 50), and

a relationship between the identified descendent and any data that descends therefrom (see column 2, lines 47 – 59),

in order to determine whether the identified descendent ancestor is in substantial conflict with the criteria (see column 2, lines 59 – 65).

8. Claims 4, 8, 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conklin in view of Sokol and further in view of USPN 5,826,077 issued to Jose Alfredo Blakeley et al (hereinafter "Blakeley").

Regarding claim 4, Conklin or Sokol does not explicitly teach executing any of the sub-steps of step (A) any of serially, in parallel, or recursively.

Blakeley teaches recursive (see column 5, lines 10 – 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Blakeley with the teaching of Conklin and Sokol wherein object are defined recursively. The motivation is recursive processing can be applied to complex objects.

Regarding claims 8, 14 and 18, Blakeley teaches the data flow comprises any of transactional information and enterprise-related information (see column 6, lines 10 – 20).

9. Claims 5, 6, 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conklin in view of Sokol and further in view of USPN 5,129,043 issued to Po C. Yue (hereinafter "Yue").

Regarding claim 5, Conklin or Sokol does not explicitly teach executing any of the sub-steps of step (A) using a rule-based engine.

Yue teaches rule-based engine (see column 8, lines 65 – 68).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teaching of Yue with the teaching of Conklin and Sokol wherein the system is a rule-based expert system. The motivation is that rule-based system assist users in analyzing data to pinpoint rules or data which need to be modified in order to improve system performance.

Regarding claim 6, Yue teaches wherein the rule-based engine uses a Rete algorithm to effect execution of one or more of the sub-steps of step (A) (see column 2, lines 15 – 19).

Regarding claims 10 and 20, Yue teaches wherein the second data set comprises an update to the first data set (see column 4, lines 34 – 59).

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred I. Ehichioya whose telephone number is 703-305-8039. The examiner can normally be reached on M - F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2172

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred I. Ehichioya  
Examiner  
Art Unit 2172  
August 23, 2004

Alford W. Kindred  
@fci W. Kindred